Curriculum Intent

Key Stages 1 & 2

Subject long-term planning

Subject: Computing

Key stage: EYFS   Subject: Computing   Year: Rec   School: Marshbrook First School

	Autumn Term	Spring Term	Summer Term	
Title	**Marvelous Me! / Let's Celebrate!**	**Terrific Tales! / Amazing Animals!**	**Come Outside! / Ticket to Ride!**	
Overall Intent-rationale **Why this?** **Why now?**	To introduce the children to a range of technology that will support their learning and to introduce them to online safety This links closely with PSHE topic (Being Me in My World) It also introduces children to using computers/Ipads	To introduce the children to programming This introduces the children to programming (using Bee-Bots) and 2 Simple (2 Go) software on the computers)	To introduce the children to using digital cameras/ digital videos and develop awareness on online safety and bullying This links closely with PSHE topic (Relationships) and introduces the children to using digital camera/digital video	
Key concepts knowledge & skills **(Must be all three)**	Students understand: • Self-identity and image • Online relationships • Creating Media • Health, well-being and lifestyle • Computing systems and networks Students know: • That the internet can be used to communicate • That I can say 'no/please stop/I'll tell' to someone who asks me to do something that makes me feel sad, embarrassed or upset (online or real life) Students can: • Give examples of how I might use technology to communicate with people I know • Talk about how this could be in real life or online • Use a mouse to navigate the screen on a computer/ left button to select	Students understand: • Programming Students know: • To program a Bee-Bot (Not push them) • Bee-Bots always turn the same amount when you program a left and right turn • That a Bee-Bot turns a set amount that is fixed Students can: • Program a Bee-Bot to enter and leave a home (children to use duplo to build the home) • Program a Bee-Bot to go to a wall and return without hitting it	Students understand: • Online bullying • Online relationships • Health, well-being and lifestyle • Creating media Students know: • That some people can be unkind online • That photographs and videos can provide information • They can use their own camera to capture photos/videos • Begin to know that clips can be joined together • That digital images can be viewed in different ways eg. on the camera, computer, Ipad or whiteboard Students can: • Describe ways that some people can be kind online • Hold and handle a camera correctly • Point and click with the camera with a special purpose in mind	

	• Use a mouse to drag and drop				• Can talk about how this can make others feel • Begin to consider what they would like to photograph eg. piece of work or activity		

Key stage: 1   **Subject: Computing**   **Year: 1**   **School: Marshbrook First School**

6	Half term 1	2	3	4	5	6
	• Computing Systems and Networks • Programming • Date and Information • Creating Media • Self-Image and Identity • Online Reputation • Online Relationships • Online Bullying • Managing Online Information • Health, Well-Being and Lifestyle • Privacy and Security • Copyright and Ownership					

Key stage: 1   Subject: Computing   Year: 2   School: Marshbrook First School

	1	2	3	4	5	6
Title	*Computing Systems and Networks - IT Around Us*	*Creating Media – Digital Photography*	*Creating Media – Making Music*	*Programming – Bee Bots*	*Programming – Scratch - Debugging*	*Online Safety*
Overall intent – rationale	Look at IT in school and beyond, in settings such as shops, hospitals, and libraries. Investigate how IT improves our world and about using IT responsibly.	Recognise that different devices can be used to capture photographs and will gain experience capturing, editing, and improving photos. Recognise that images they see may not be real.	Use a computer to create music. Listen to a variety of pieces of music and consider how music can make them think and feel. Compare creating music digitally and non-digitally. Look at patterns and purposefully create music.	Start to understand the concepts skills within programming such as logic, evaluation and algorithms.	Start to understand the concepts skills within programming such as logic, evaluation and algorithms.	It is empowering, builds resilience and effects positive culture change. The objectives promote the development of safe and appropriate long term behaviours, and support educators and learners in shaping the culture within their setting and beyond.
Why this?	Must recognise common uses of IT beyond school and to use technology safely and respectfully.	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content.	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content.	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions - create and debug simple programs - use logical reasoning to predict the behaviour of simple programs.	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions - create and debug simple programs - use logical reasoning to predict the behaviour of simple programs.	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies
Why now?	In Y1 children have covered 'Technology Around Us' and then go on to learn about 'Connecting Computers' in Y3.	In Y1 children have learnt about 'Digital Painting' and 'Digital Writing' and then go on to learn about 'Animation' in Y3.	In Y1 children have learnt about 'Digital Painting' and 'Digital Writing' and then go on to learn about 'Animation' in Y3.	In Y1 children have recapped BeeBot commands and made algorithms. They have also started to debug. In Y3 they learn about device inputs and playing and decomposing a game.	In Y1 children have tinkered with ScratchJr. Explore a dance routine in PE with repeated moves. Turn their dance moves into algorithms. Circle instructions they want to repeat. Convert algorithm to a program, taught how to repeat loop and how to access. They add music and a background.	In Y1, children have covered objectives through most of their computing units of work including PSHE lessons across the 8 different concepts of online safety.

Key concepts knowledge & skills (Must be all three)						
	Students understand: • Computing systems and networks • Managing online information Students know: • What information technology is • That IT benefits us • The Digital 5-a-Day Students can: • Identify IT in the home • Identify IT beyond school • Explain how IT benefits us • Explain how rules/guidance helps them	Students understand: • About creating media • Health, well-being and lifestyle • Online bullying Students know: • What devices can be used to take photographs • How to use a digital device to take a photograph • What portrait and landscape is • What makes a good photo • How photographs can be improved • How to retrieve and manipulate digital content • That images can be changed • Know the difference between real/fake images Students can: • Evaluate their best photos • Sort devices into old/new • Take photos in portrait and landscape • Improve a photo by retaking it • Explore the effect of light • Experiment with different light sources • Focus on an object	Students understand: • About creating media Students know: • That music is created and played by humans • That music is made from a series of notes Students can: • Describe how music makes them feel • Identify patterns in music • Create a rhythm pattern • Use a computer to experiment with pitch and duration • Use a computer to create a musical pattern using three notes • Save their work • Open their work • Explain how to make their work better	Students understand: • Programming Students know: • What algorithm symbol cards represent • That an algorithm is a set of precise instructions • That a program is the code/buttons pressed to make the algorithm happen • That debugging means to find and fix mistakes in a program Students can: • Describe algorithms using these cards • Test algorithms • Write programs • Debug programs • Predict the outcome of a simple program	Students understand: • Programming Students know: • That an algorithm is a set of precise instructions • That a program is the code/buttons pressed to make the algorithm happen Students can: • Tinker • Test algorithms • Debug a program • Predict the outcome of a program • Explain what the bugs were and how they fixed it	Students understand: • Self-image and identity • Online relationships • Online reputation • Managing online information • Privacy and security Students know: • What a fake profile is • The pros and cons of fake profiles • That images and identities can be manipulated • That information put online can last for a long time (digital footprint) • How a search engine works • That not all information online is true • What personal information is • Why passwords are important Students can: • Create a fake profile to protect their identity • Explain the damage manipulated images or identities can cause • Define, give examples and develop kind relationships online • Help keep their digital footprint safe • Understand the platforms that create and keep digital footprints

	• Use tools to achieve a desired effect and explain their choices • Recognise if images are real/fake and explain how images have been changed	• Navigate and search on a website • Explain ways to stay safe whilst searching including voice activated searches • Explain why it can be difficult to spot the difference between real/fake news • Create responses for answering questions relating to personal information • Create strong passwords

Key stage: 2   Subject: Computing   Year: 3   School: Marshbrook First School

	Half term 1	2	3	4	5	6
Unit Title	**Computing Systems and Networks: Connecting Computers**	**Programming - Scratch**	**Creating Media: Desktop Publishing**	**Programming - CODE**	**Online Safety**	**Creating Media: Animation**
Overall intent – rationale **Why this?** **Why now?**	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. In Y2 children have looked at IT in school and beyond, in settings such as shops, hospitals, and libraries. Investigate how IT	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. In Y2 children have learnt about 'Digital Photography and 'Making Music' for media.	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. In Y2, children have covered objectives through most of their computing units of work including PSHE lessons across the 8 different concepts of online safety.	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. In Y2 children have learnt about 'Digital Photography and 'Making Music' for media.

improves our world and about using IT responsibly.	In Y2 children have used bee bots and scratch to concepts skills within programming such as logic, evaluation and algorithms.		In Y2 children have used bee bots and scratch to concepts skills within programming such as logic, evaluation and algorithms.		

Key concepts knowledge & skills
 	
(Must be all three)
	Students understand:
	• Computing systems and networks
	• Managing online information
	Students know:
	• What input and outputs are.
	• What a network switch is.
	• How messages are passed through multiple connections.
	• How a digital device can be used for a range of activities.
	What a switch, server, and wireless access point in a network is.
	Students can:
	  • Classify input and output devices.
	  • Explain how I use digital devices for different activities.
	  • Suggest differences between using digital devices and non-digital tools.
	  • Explain how messages are passed through multiple connections.
	  • Discuss why we need a network switch.
	  • Demonstrate how information can be passed between devices.
		Students understand:
		• Programming
		Students know:
		  • That an algorithm is a set of precise instructions
		  • That a program is the code/buttons pressed to make the algorithm happen
		Students can:
		  • Tinker
		  • Test algorithms
		  • Debug a program
		  • Predict the outcome of a program
		  • Explain what the bugs were and how they fixed it
			Students understand:
			• About creating media
			Students know:
			  • How to type, create a textbox, import and image.
			  • Edit text font, colour and style.
			Students can:
			  • Use a computer to experiment with text.
			  • Use a computer to create a leaflet.
			  • Import a photo.
			  • Add text boxes.
			  • Save their work
			  • Open their work
			  • Explain how to make their work better.
				Students understand:
				• Programming
				Students know:
				  • What algorithm symbol cards represent
				  • That an algorithm is a set of precise instructions
				  • That a program is the code/buttons pressed to make the algorithm happen
				  • That debugging means to find and fix mistakes in a program
				Students can:
				  • Describe algorithms using these cards
				  • Test algorithms
				  • Write programs
				  • Debug programs
				  • Predict the outcome of a simple program
					Students understand:
					• Self-image and identity
					• Online relationships
					• Online reputation
					• Managing online information
					• Privacy and security
					Students know:
					  • What a fake profile is
					  • The pros and cons of fake profiles
					  • That images and identities can be manipulated
					  • That information put online can last for a long time (digital footprint)
					  • That not all information online is true
					  • What personal information is and what is appropriate to share
					  • Why passwords are important
					Students can:
					  • Create a fake profile to protect their identity
					  • Explain the damage manipulated images or identities can cause
					  • Define, give examples and develop kind relationships online
					  • Help keep their digital footprint safe
					  • Understand the platforms that create
						Students understand:
						• About creating media
						Students know:
						  • What an animation is.
						  • How to take a photo on an ipad.
						  • How to use onion skinning.
						Students can:
						• What an animation is.
						• How to create an animation, including the small steps.
						• Evaluate how to make an animation better
						• Position an iPad correctly

Key stage: 2   Subject: Computing   Year: 4   School: Marshbrook First School

	1	2	3	4	5	6
Title	Computing Systems and Networks: The Internet	Creating Media: Audio Editing	Programming – CODE – Course D	Creating Media: Photo Editing	Online Safety	Programming – Scratch.
Overall intent – rationale Why this? Why now?	Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. In Y3 children have looked at computing systems and networks. They will now further their understanding of this and look at further networks including the world wide web.	Learners will examine devices capable of recording digital audio. Learners will discuss the ownership of digital audio and the copyright implications of duplicating the work of others. Learners will use Audacity to produce a podcast, which will include editing their work, adding multiple tracks, and opening and saving the audio files. Finally, learners will evaluate their work and give feedback to their peers.	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. In Y3 children have used scratch and code.org to predict, test, write and debug programs.	Learners will develop their understanding of how digital images can be changed and edited, and how they can then be resaved and reused. They will consider the impact that editing images can have, and evaluate the effectiveness of their choices. In Y2 chn have learned that different devices can be used to capture photographs and they gained experience capturing, editing, and	It is empowering, builds resilience and effects positive culture change. The objectives promote the development of safe and appropriate long term behaviours, and support educators and learners in shaping the culture within their setting and beyond. In Y3, children have covered objectives through most of their computing units of work including PSHE lessons across the 8	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. In Y3 children have used scratch and code.org to predict, test, write and debug programs. In Y4, children have used code.org

		In Y2 children used a computer to create music. They listened to a variety of pieces of music and considered how music made them think and feel. They compared creating music digitally and non-digitally and looked at patterns and purposefully created music. In Year 5, they will combine audio with video editing.		improving photos. They also recognised that images they see may not be real. In Y3, the children have imported images from online into a desktop publishing programme.	different concepts of online safety.	to predict, test, write and debug programs.
Key concepts knowledge & skills **(Must be all three)**	Students understand: • Computing Systems and Networks. • Privacy and Security. • Copyright and Ownership. • Managing Online Information Students know: • That the internet is a global network of networks. • That the world wide web is part of the internet. • The role of routers on the internet. • About devices and browsers that can access the world wide web. • That content can be added and accessed on the world wide web. • That website content is owned by people or companies. • That not everything they see on the internet is true, honest or accurate.	Students understand: • Creating Media. • Copyright and Ownership. Students know: • About device inputs (microphone) and outputs (speakers/headphones). • That when recording audio ownership and copyright must be considered. • About features of a podcast. • How to open and save a digital recording to a file. • Ways in which a podcast can be altered. • How to export their digital recordings so they can be listened to on different digital devices. Students can: • Identify digital devices that can record and play back sound. • Identify inputs and outputs on different devices.	Students understand: • Programming. Students know: • That a programme is the code given to make the algorithm happen. • That debugging means to find and fix mistakes in a program. • That loops are used to repeat algorithms when programming. Students can: • Sequence algorithms to create programmes. • Debug programmes. • Read and edit code with loops. • Build a game that they can customize with different speeds and sounds. Build a game that they can share.	Students understand: • Creating Media. • Self-Image and Identity. • Copyright and Ownership. Students know: • That digital images can be changed and describe ways. • how different colours and filter effects can fit a scenario. • About retouching tools and the positive and negative effects they can have on an image. • About real and fake images. Students can: • Use the crop tool to change the composition of images. • Search and save images from a copyright free website. • Alter an image to fit a scenario using different colour and filter effects. • Use retouching tools to improve an image.	Students understand: • Creating Media • Self-Image and Identity • Online Reputation • Online Relationships • Online Bullying • Managing Online Information • Health, Well-Being and Lifestyle • Privacy and Security • Copyright and Ownership. Students know: • That others can pretend to be someone else online. • What online respect means. • That information online may not be real. • That when searching using online technologies they need to be scrutinised for their reliability. • That persuasive methods are used online to encourage people to buy things. • What is a bot.	Students understand: • Programming Students know: • What looping is. • How to read code to predict shapes. • How to modify code to alter shapes. • What blocks act as a loop. Students can: • Create their own count-controlled loop off-line. • Make predictions of shapes based on code. • Experiment with variables to control models. • Programme shapes using looping.

	Students can: • Explain what the internet is. • Demonstrate how information is shared across the internet. • Explain how the internet helps them to view the websites via the world wide web. • Deduce information about websites from their web addresses. • Create their own content on the world wide web. • Explore website and what they can and cannot do with the content. Review images and evaluate whether it is real or not.	• Record and playback their own audio. • Plan, record and save their own podcast. • Open an existing podcast and edit sections. • Evaluate likes and dislikes of their own and each other's digital recordings.		• Sort images into real and fake. • Create fake images. Publish their image and evaluate its effectiveness.	Students can: • Explain why others may pretend to impersonate someone else online and hide behind their identities. • Explain respectful and disrespectful behaviour online. • Explain that online information about others may have been created, copied or shared. • Analyse the reliability of different technologies trustworthiness. • Recognise persuasive methods used online. • Describe techniques to identify if they are talking to a bot.	